

# Emotional reactions to odors

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An alexithymic individual has difficulty, to a greater or lesser degree, in relating to the sensations -- ranging from joy to fear, from disgust to anger -- which make up our experience. New research conducted at SISSA in Trieste seeks to shed light on new aspects of the condition, using a hitherto completely untested approach. Credit: Pixabay

Do you express your emotions? Are you able to name them, talk about

them, relate to your feelings? If your answer is not an unqualified yes, you might be among the 10 percent of the healthy population who has difficulty processing the emotions they experience, a psychological condition known as alexithymia. An alexithymic individual has difficulty, to a greater or lesser degree, in relating to sensations associated with emotion.

New research conducted at SISSA in Trieste and published in the scientific journal *Scientific Reports* seeks to shed light on new aspects of the condition using a hitherto completely untested approach. Given the close link that exists between the perception of smells and emotions, the scientists Cinzia Cecchetto, Raffaella Rumiati and Marilena Aiello used olfactory tests. "There is a partial overlap between the areas in our brains that deal with [olfactory perception](#) and those that process emotions. A test such as this may, therefore, be particularly suitable for studying this specific psychological condition," explains Aiello, who coordinated the research.

Sixty-two individuals were divided into three groups according to the severity of alexithymia (high, medium and low). They underwent a series of olfactory tests in order to investigate their reaction to different types of stimulation. The scientists found that alexithymic individuals differ from others in their reaction to smells. What specifically distinguishes them are physiological parameters such as heart rate and electrical conductivity of their skin, which was found to be accelerated. The tests also showed that there are differences in reactions between subjects characterised by affective alexithymia, in which the sphere of sensations, imagination and creativity is restricted, and those with cognitive alexithymia, which compromises the ability to identify, express and distinguish emotions.

Cinzia Cecchetto says, "The results obtained show that one of the characteristics of [alexithymia](#) is the altered physiological response to

olfactory stimuli. Contrary to what one might expect, this study shows that the physiological reactions of alexithymic individuals to emotions induced by smells are not lower, but rather more intense. It is as if these subjects find themselves in a situation of perpetual, extreme activation in relation to their emotions, which appears to make them insensitive to [emotional](#) changes. It is a counterintuitive yet particularly significant scientific observation."

**More information:** Cinzia Cecchetto et al, Alexithymia and emotional reactions to odors, *Scientific Reports* (2017). [DOI: 10.1038/s41598-017-14404-x](#)

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